EFFECT OF YOGIC PRACTICES ON PHYSIOLOGICAL AND BIOCHEMICAL PARAMETERS OF ADULT FEMALES WITH RESPECT TO LEUCORRHOEA DISORDER

SYNOPSIS

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CERTIFICATE

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I hereby declare that the **synopsis "EFFECT OF YOGIC PRACTICES ON PHYSIOLOGICAL AND BIOCHEMICAL PARAMETERS OF ADULT FEMALES WITH RESPECT TO LEUCORRHOEA DISORDER**" being submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Yoga under the Department of Yogic Sciences, Lakshmibai National Institute of Physical Education (LNIPE), Gwalior,Madhya Pradesh, India during the academic year 2020-2021.

It is a bonafide record of original work carried out under the supervision of **Dr. Nibu R Krishna** and the co-supervision of **Dr. Deepeshwar Singh**. It has not been submitted in full or part to any other university or institute for a degree or diploma.

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ABSTRACT

Leucorrhoea, characterized by abnormal vaginal discharge, is a common concern affecting a significant number of women in reproductive age, often leading to physical discomfort, emotional distress, and reduced quality of life. This research aims to examine the therapeutic potential of yogic practices in addressing both physiological and biochemical aspects of this condition. The study is structured as a randomised pre-test and post-test experimental design involving 80 adult females aged eighteen to thirty-five years, diagnosed with leucorrhoea. Participants were divided into experimental and waitlisted control groups, the latter undergoing a 12-week yoga intervention. The program included selected loosening Practices, asanas, pranayama, Mudras, Bandhas and concentration techniques aimed at improving pelvic health and hormonal balance. Key physiological indicators such as discharge characteristics and abdominal pain were assessed alongside biochemical markers including Vaginal pH, Wet smear, VDRL, HbA1c, and sex hormones. The yoga module was designed specifically to target muscles and glands related to reproductive and endocrine functions. The outcome measures incorporated standardized tools like the SF-36 for quality of life and VAS for pain assessment. Preliminary analysis suggests that the intervention had a significant positive effect on the targeted variables, highlighting yoga as a promising complementary approach in the management of leucorrhoea. This study contributes to the growing field of integrative women's health and supports the development of non-pharmacological therapeutic modules for gynaecological disorders.

Keywords- Leucorrhoea, Yoga Practices, Females, Vaginal Health, Quality of Life, Pain Scale and Hormones.

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CHAPTER I

INTRODUCTION

Leucorrhoea is known as Excessive vaginal discharge, has become a widespread issue in modern gynecological practice. While sometimes normal, when it becomes abnormal it can cause additional problems such as vulvar itching, back pain, and emotional distress for affected women. This symptom appears in numerous gynaecological conditions. In the Indian context, vaginal discharge ranks among the most frequently reported complaints by female patients.[1] The volume of vaginal secretions can increase when vaginal infections or sexually transmitted infections (STIs) are present, and this discharge may intermittently resolve and recur over time.[2] This condition frequently stems from multiple factors, including excessive sexual intercourse, pregnancy termination, having multiple children, socioeconomic disadvantage, inadequate personal hygiene, improper nutrition, and excessive physical load.[3] This condition is commonly accompanied by various physical symptoms including general weakness, fatigue, exhaustion, diverse pain sensations, and numerous other bodily complaints.[4]

The condition can create considerable discomfort and emotional distress, potentially impacting sexual desire and preferences. Its severity ranges from mild to severe and manifests differently across individuals. Leucorrhoea falls into two primary categories: physiological and pathological. The physiological form results from estrogen stimulation. Factors contributing to leucorrhoea include alterations in vaginal epithelial tissue, changes in the natural bacterial environment, and shifts in the acidity of vaginal secretions.[5] In cases of pathological leucorrhoea, various infectious agents play significant roles, including specifically Trichomonas vaginalis, Neisseria gonorrhoea, and Candida albicans. Additionally, other potential causative organisms include Ureaplasma urealyticum, Chlamydia trachomatis, candida-like organisms (CLO), and streptococci.[6] Vaginal discharge typically fluctuates in quantity and texture throughout each menstrual cycle. During pregnancy, women commonly experience increased discharge amounts. Following childbirth, while breastfeeding, and after menopause, women can expect decreased discharge levels.[7]

Yoga is a holistic health therapy done through manual treatments of the human body for achieving overall physiopsychic health. Yoga is in-depth with regards to the philosophy that asanas or poses accompanied with pranayama or breath control and meditation, represent a three-folded facet of a singular activity.

Therapeutic yoga, as the name suggests, is the branch of yoga that focuses on the prevention and treatment of medical problems through the practice of yoga and its components. This branch uses all the forms of yoga asanas, but combines them with different breathing patterns, meditation as well as self-observation and thinking, leading to maximum output. Many studies have demonstrated the favourable impact of yoga on a person's health, such as aiding in the regulation of blood glucose levels, alleviating musculoskeletal problems and maintaining proper function of the cardiovascular system.

RESEARCH QUESTION

A question intended to study or learn more about a certain area of interest is referred to as a research question. It specifically seeks to condense the research problem. So, the research question is stated as "**What will be the effect of Yogic Practices on Physiological and Biochemical Parameters of Adult Females with Respect to Leucorrhoea Disorder?"**

STATEMENT OF THE PROBLEM

The purpose of this study is to investigate the effect of Yogic Practices on Physiological and Biochemical Parameters of Adult Females with Respect to Leucorrhoea Disorder.

OBJECTIVES OF THE STUDY

1. To ascertain whether the physiological and biochemical parameters of adult females with leucorrhea disorder change significantly before and after practicing yoga.
2. To create and verify a particular yoga module for leucorrhea.
3. To evaluate the effect of yogic practices, on the quality of life and lower abdomen pain between the experimental group and control group among adult female participants.

LIMITATIONS

1. The study's findings may be influenced by uncontrollable factors such as the participants' nutrition, lifestyle, daily activities, and habits.
2. Any particular incentive strategies that participants independently engaged in outside of the study procedure will be acknowledged as a limitation.
3. The study's limits will be the participants' emotional states and prior training states at the time of data collection.
4. Any information that participants purposefully disregard from the study will be considered a limitation.

DELIMITATIONS

1. This research will focus exclusively on eighty female patients diagnosed with leucorrhoea.
2. Only subjects between Eighteen to thirty-five years of age will be included in this research.
3. The research will be delimited to a 12-week yoga program that evaluates specific dependent variables.
4. One boundary of this research is that conventional treatment will be used alongside the yoga intervention.
5. Participants will be selected from an Indian medical college or hospital.

HYPOTHESIS

Ha(1): There will be a significant effect of yogic practices on physiological and biochemical parameters among adult females with leucorrhoea disorder.

Ha(2): There will be a significant difference in quality of life and lower abdominal pain between the experimental group and control group following yogic interventions among adult female participants.

H_O(3): There will be no significant difference between pre-clinical and post-clinical test reports among patients in both the experimental and control groups.

H_O(4): There will be no significant effect of yogic practices on physiological and biochemical parameters among adult females with leucorrhoea disorder.

DEFINITIONS AND EXPLAINATIONS OF THE TERMS

Leucorrhoea Disorder- Leucorrhoea is described as a condition where a female experiences thick, whitish to yellowish colored discharge from the vagina especially in the age of puberty when the sexual organs of a female are developing.[9] This is a routine complaint which approximately constitutes more than 25 per cent of total patients visiting a gynaecologist. It is made up chiefly of a mucus-like substance composed of shed cells from the body. This substance maintains the moisture levels of the vaginal region and removes debris.

All women experience regular vaginal discharges that help maintain the chemical balance and elasticity of the vaginal muscles, acting as a natural defense mechanism for the vagina. However, if these discharges become excessive and turn into a thick white or yellow liquid with an unpleasant odor, it is referred to as "Leucorrhoea," which could indicate an infection, cancer, or other underlying issues.[10]

This abnormal discharge can vary in color, appearing whitish, yellowish, reddish, or even blackish. It is typically described as a white fluid released from the female genitalia. At times, it appears as a liquid, while at other times, it can be sticky and thick. Its characteristics can vary based on a woman's age or excessive physical workload.

Yoga Therapy is a therapeutic approach that utilizes yoga poses, breathing techniques, meditation, and guided imagery to enhance both mental and physical well-being. Its holistic approach promotes the connection between the mind, body, and spirit. Contemporary yoga therapy encompasses a wide variety of treatment methods, blending aspects of physical therapy and psychotherapy.[11] Yoga therapy is an expanding area of study, and research is increasingly highlighting its effectiveness. It is utilized to address current mental and physical health problems, but it can also serve as a self-care approach for prevention and ongoing wellness.

SIGNIFICANCE OF THE STUDY

1. This research will provide additional scientific support demonstrating how yoga effectively influences physiological and biochemical factors as a treatment method.
2. Findings from this study may improve participants' understanding of vaginal health while potentially reducing the stigma often linked with leucorrhoea.
3. This investigation will add valuable information to the expanding research on yoga's benefits as a complementary treatment for women's reproductive health issues.
4. Creating and verifying a specialized yoga program for managing leucorrhoea will give healthcare professionals a scientifically-supported option to suggest to their patients.

CHAPTER II

REVIEW OF RELATED LITERATURE

Author & Publication	Sample Size(n)	Variable Studied	Findings	Conclusion
Mishra, SP., & Singh, RH. (1984)	20 patient Range of age 20 to 30 years	Yogic asanas and Bandha, Pelvic congestion, Leucorhoea, Bleeding in rectum heaviness in Lower abdomen	Inverted poses and Bandha serve as exercises for the pelvic muscles, particularly the levator ani and anal sphincters, while the Viparitkarani pose aids in venous return against the force of gravity.	The current study found that the complaints linked to inadequate blood flow in the pelvic and perineal areas vanished, and patients demonstrated significant improvement after practicing these Asanas.
Agrawal, SK. (2013)	Survey study upon millions people	Therapeutic Aspects of yoga, Menopausal Symptoms & Discharge, HIV, Immune Function, Diabetes risk factor, arthritis	Yoga promotes overall health by harmonizing the mind and body through various postures, breathing techniques, and meditation practices.	It has been determined that Yoga has become a promising complementary approach for the treatment of various prevalent medical conditions.
Urvijja & Samuel, S . (2020)	30 Patient	Shweta Pradara, Classical Treatment of Ayurveda and Yogic Cleansing Practices.	Treatment options involve o ral medication.	It was concluded that all this treatment helps to attain symptomatic relief.

Devi, RR.(2019)	35 Patient	Leucorrhoea, Ayurveda, Yoga and Massage treatment	Ayurveda and yoga helps to cure associated symptoms of Leucorrhoea.	It was concluded that Ayurveda is an ancient Science that combines herb, lifestyleand yoga helps to reduce pain and pelvic congestion.
Trollope Karen, Kumar. (2001)	52 Patient	Cultural Parameter, Biomedical Parameter and Leucorrhoea	A comprehensive anthropological investigation into women experiencing leukorrhea would provide valuable insights into the various cultural interpretations of this condition. Within a meaning-focused interpretative framework, the reduction of genital secretions, considered the most refined dhatu of the body, symbolically represents a decline in one's fundamental strength and a diminishing of personal power.	Vaginal discharge is commonly linked to reproductive tract infections (RTIs) and is typically treated with antibiotics; however, this can lead to various negative effects from improper treatment.
JR O'BRIEN	2	Clinical trials, Managements of Vaginitis	An analysis of the treatment outcomes using six compounds currently employed for vaginitis therapy revealed that acetarsol and Pimaricin, due to their wider range of effectiveness, were found to be the most beneficial before a definitive diagnosis could be confirmed through cultures.	All six compounds are effective, but they function in different ways. For example, one compound is useful for treating trichomoniasis, while another helps alleviate the symptoms of atrophic vaginitis.

CHAPTER III
SELECTION OF THE SUBJECTS

Eighty women (ages 18-35 Years) will be recruited from an Indian medical college or hospital. Individuals diagnosed with Leucorrhoea will be identified through screening and requested to join this research study.

CRITERION MEASURES

Every participant will only be included following a gynaecologist's complete diagnostic evaluation, comprehensive examination, and careful clinical observation.

Exclusion Criteria of Participants

1. Pregnant Women
2. Individuals with diagnosed cognitive neurological conditions.
3. Persons with bodily impairments.
4. Those currently taking regular doses of steroids, hormone-based birth control, or sildenafil citrate (Viagra) medications.

Inclusion Criteria of Participants

1. Women experiencing fertility issues.
2. Individuals whose vaginal smear tests show evidence of Trichomonas vaginalis, fungal structures, or high levels of pus cells.
3. Persons diagnosed with diabetes and polycystic ovarian syndrome.
4. Those with confirmed sexually transmitted infections, specifically syphilis or gonorrhea.

SELECTION OF THE VARIABLES

The study will be continued with following Variables:

a) Physiological: Color, odor, discharge amount, and associated symptoms.

b) Biochemical: Vaginal Ph vaginal smear, glycated haemoglobin (HbA1c), and gonadal hormones (estrogen and progesterone).

Secondary Outcome Variables: Lower abdominal pain and quality of life.

DESIGN OF THE STUDY

The Pretest-Posttest Randomized group design.

COLLECTION OF DATA

1. The collection of data relies entirely on the effectiveness of the specific yogic interventions performed by the experimental group over a 12-week period.
2. The sample will undergo testing two times (before and after) with a minimum training interval of 12 weeks.
3. There will be two groups:

Experimental group	(40 Participants)
Waitlisted Control group	(40 Participants)

YOGA INTERVENTION PROCEDURE

The yoga program will consist of weekly group sessions held five times a week for one hour, from 6:00 AM to 7:00 AM. Participants will be taught and practice particular loosening Practices, asanas, pranayama, Mudras, Bandhas and concentration methods designed to help alleviate the symptoms and issues related to leucorrhoea.[12-14]

ASSESSMENT TOOLS

Vaginal discharge Assessment Form will be filled by Participant.[15]

- HbA1c
- VDRL (Venereal Disease Research Laboratory)
- Vaginal Ph
- Vaginal wet smear
- Estrogen test
- Progesterone test

Biochemical test

SF-36 Questionnaire will be used.
VAS Pain Scale will be used for measurement of lower abdominal Pain.

Specific Assessment

Urine examination is carried out if it is required.

STATISTICAL TECHNIQUE

In the present study, "Effect of Yogic Practices on Physiological and Biochemical Parameters of Adult Females with Respect to Leucorrhoea Disorder," descriptive statistics will be employed and Analysis of Variance (ANOVA) may be used to analyse the data at the 0.05 level of significance.

EXPECTED OUTCOME

This study will contribute to raising more awareness and knowledge about leucorrhoea disorder and genital health. Additionally, the study is expected to contribute to a greater understanding of leucorrhoea and offer a validated, non-pharmacological yoga module as a complementary treatment for women's reproductive health issues. The study aims to demonstrate that a structured 12-week yoga intervention can reduce symptoms such as excessive vaginal discharge, lower abdominal pain, and improve overall quality of life. The research anticipates measurable improvements in indicators like vaginal pH, discharge characteristics, hormonal levels (estrogen and progesterone), and subjective well-being.

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